

STATE OF UTAH  
NATURAL RESOURCES & ENERGY  
Oil, Gas & Mining

Scott M. Matheson, Governor  
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4241 State Office Building • Salt Lake City, UT 84114 • 801-533-5771

November 5, 1982

Mr. Claude Thormalen  
Union Carbide Corporation  
P. O. Box 94  
Uravan, Colorado 81436

RE: Revegetation Test Plots  
Hecla Shaft  
ACT/037/043  
San Juan County, Utah

Dear Mr. Thormalen:

Division staff members have reviewed the soil analysis of the Hecla Shaft waste rock and make the following recommendations for soil treatment and revegetation species for the Hecla Shaft test plots:

Soil Treatment Recommendations - Hecla Shaft

The notable problem with this soil is texture. The sandy texture will be poor in moisture retention capability and nitrogen. An organic amendment would be provided to increase the percentage of organic matter which will aid structure and increase the moisture retention capability as well as nutrient holding capacity (CEC) of this material. An organic amendment such as sewage sludge will also increase the nitrogen content which is, at the Hecla Shaft, substantially below that of the other sites. Manure additions may also be useful.

A nitrogen source such as ammonium sulfate ( $\text{NH}_4\text{SO}_4$ ) should be applied. Low nitrogen and organic matter dictate that 40 lbs/ac nitrogen be applied. Therefore, 200 lbs/ac of ammonium sulfate is recommended.

Potassium is also low. An addition of 30 lbs/ac potassium is desirable. To achieve this application rate, apply 60 lbs/ac of muriate of potash. This should afford ample K.

The addition of organic matter, nutrients and proper selection of plant species should render this material suitable for successful reclamation.



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Recommended Species for Revegetation Trials

Grasses

Agropyron dasystachum (thickspike wheatgrass)  
Oryzopsis hymenoides (Indian ricegrass)  
Stipa commata (needle-and-thread grass)  
Koeleria cristata (June grass)  
Agropyron cristatum (crested wheatgrass)

Forbs

Artemesia ludoviciana (Louisiana sagebrush)  
Melilotus officinale (yellow sweetclover)

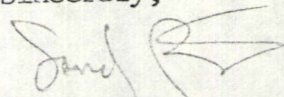
Shrubs

Atriplex tridentata (big sagebrush)  
Atriplex confertifolia (shadscale)  
Chrysothamnus nauseosus (rubber rabbitbrush)  
Chrysothamnus viscidiflorus (rabbitbrush)

It is further recommended that the test plots be set up in the same manner as the other three test sites, for the Beaver Shaft, Snowball and LaSal mine wastes, as described in a letter to Ron DeHollander dated July 9, 1982. It is not too late to develop the test plots during this fall season if initiated before the end of this month.

Please inform the Division of your specific plans for the location, size and number of plots, along with detailed plans for the soil treatment and vegetation seeding for all of the revegetation test sites. We hope to hear from you soon, and if further assistance is needed, don't hesitate to ask.

Sincerely,



SANDY PRUITT  
FIELD SPECIALIST

SP/btb

cc: Sue Linner, DOGM  
Tom Portle, DOGM